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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Patent Application of

MITSUO SADO

Serial No.: 09/117,795

Group Art Unit: 1774

Filed: August 13, 1998

Examiner: D. Garrett

For: Releasant for Aqueous Polymer-Type Floor Polish

April 22, 2002

APPELLANT'S BRIEF

Honorable Commissioner of
Patents and Trademarks
Washington, DC 20231

Sir:

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The following appeal brief is submitted pursuant to the notice of appeal filed
February 21, 2002 in the above-identified application.

REAL PARTY IN INTEREST

The real party in interest in the above-identified application is assignee Johnson
Company, Ltd.

RELATED APPEALS AND INTERFERENCES

None.

STATUS OF CLAIMS

Four claims, Claims 1 through 4, are the only claims pending in this application.
Each claim stands under final rejection. This appeal relates to each of claims 1 through 4.

STATUS OF AMENDMENTS

An amendment under 37 CFR 1.116 was filed on October 18, 2001, in response to the Final Action rejecting claims 1 through 4 mailed August 22, 2001. The amendment included inserting "composition" after "releasing agent" in claims 2 and 3. In an Advisory Action mailed January 18, 2002, the Examiner stated this amendment was entered for purposes of appeal. The rejection of claims 1 to 4 was maintained in view of this amendment.

SUMMARY OF INVENTION

The present invention is directed to a releasing agent composition for use in removing aqueous polymer-type floor polish. Pages 1 to 3 of the specification state that aqueous polymer type floor polishes may be used to make floors look lustrous and aesthetically appealing when freshly applied. However, with time, users' scuff marks and dirt deposits make the floor surface unsightly, so the surface must be washed frequently. Washing may remove dirt as well as a surface film layer of the aqueous polymer-type floor polish. The polish is repeatedly washed and fresh polish applied on top of the old, for the same aesthetic purposes. Eventually, dirt deposits and polish residue build up on the floor surface such that they must be completely removed from the floor surface. Releasing agents are applied to the floor surface, and worked into the film with the floor pad of a polisher. Conventional releasing agents often comprise a surfactant, an alkaline substance (ex. NaOH or an alkanolamine), and a water-soluble ethylene glycol type solvent. These solvents are volatile, malodorous substances that may be hazardous to the health of floor maintenance workers and damaging to the environment. A recent demand for high durability polishes, more difficult to remove but requiring less overall maintenance, has increased the demand for effective releasing agents having less pungent, less volatile characteristics than conventional agents. The present invention addresses this problem.

The present invention affords (1) easy removal of an aqueous polymer-type floor polish film, (2) a simple rinse with water, and (3) minimized use of a volatile organic compound, reducing malodor and improving performance and safety over the state of the art. Compositions of the present invention comprise components (A) 5 to 75% of a water-soluble organic solvent of the formula $C_4H_9-O-(CH_2CH_2O)_nH$ where n is an integer of 2 or 3, (B) 15 to 40% by weight of benzyl alcohol, and (C) 10 to 20% by weight of an amine compound. In more specific embodiments of the invention, (A) is diethylene glycol mono-n-butyl ether or triethylene glycol mono-n-butyl ether, (C) is an alkanolamine, or the composition is diluted 1:3 to 1:20. Amounts less than 5% by weight of component (A) fail to bring about acceptable releasing capabilities. Amounts less than 15% by weight of component (B) render (B) ineffective in helping component (A) release the film, while more than 40% of (B) renders the composition unstable, causing undesirable separation of the releasant composition. Less than 10% of (C) results in insufficient releasability as well, while more than 20% is avoided for toxicity reasons. Additional additives, such as perfumes, surfactants, defoamers and pigments may be incorporated into the present compositions. However, the amounts of components (A), (B) and (C) should be strictly enforced, as discussed above.

The specification includes several examples of compositions of the present invention and the results of their application to a polished flooring surface. Specifically, aqueous polymer-type floor polish was applied to white vinyl floor tiles (page 11 lines 6-10 and Table 2 page 12), and compositions of the present invention (Examples 1-5) and Comparative Examples 1 and 2 were applied to the polished tiles. The releasing characteristics of Examples 1 to 5 and Comparative Examples 1 and 2 were then evaluated. Table 1 shows that Examples 1 to 5 comprise diethylene glycol mono-n-butyl ether and/or triethylene glycol mono-n-butyl ether, while Comparative Examples 1 and 2 comprise ethylene glycol mono-n-butyl ether. Table 3 shows that compounds of the present invention efficiently removed film buildups while avoiding malodors and unpleasant or unsafe work environments. In contrast, the Comparative Examples provided inferior releasing action and were malodorous. To protect this invention, Appellant filed this application for patent in the United States on August 13, 1998.

ISSUE

Whether claims 1 to 4 are patentable under 35 U.S.C. §103 over JP 63069897A (hereinafter “JP”).

GROUPING OF CLAIMS

The rejected claims have been grouped together in the rejection. Appellant urges that each of the rejected claims stands on its own recitation, the claims being considered to be separately patentable for reasons set forth in more detail below.

THE REFERENCES

The following reference is relied on by the Examiner:

Takeshi Kawano JP 63-069897A March 23, 1988

BRIEF DESCRIPTION OF THE REFERENCE

The JP reference is directed to cleaning compositions effective for removing hard-to-clean heavy contaminants of water-insoluble polymer substances deposited on hard surfaces such as machinery to prevent metals from rusting or corroding, or for imparting lubricity to metals for processing, or for forming a protective coating at the time of printed (circuit) board etching. JP page 7 describes compositions having solvents selected from a group consisting of ethylene glycol monobutylether, diethylene glycol monobutylether, benzyl alcohol and other solvents; and amines and surfactants. JP states its compositions shorten cleaning time and may allow for low-temperature cleaning, in comparison with conventional cleaners. JP's compositions were tested on steel and glass plates coated with acrylate and styrene resins to evaluate their cleaning capacity. In Tests 1 and 3, JP completely immersed a steel plate in cleaner at 75°C and 90°C to remove adherent resin. In Test 2, steel plates were spray-cleaned at 65°C to remove resins and in Test 4, an ultrasonic cleaning test was performed on a glass plate at 30°C. Comparative cleaners were generally less effective than JP's cleaners, as seen in Tables 1-5.

THE REJECTION

Claims 1 to 4 stand rejected under 35 U.S.C. §103 over JP. The Examiner states JP teaches component amounts encompassing and/or overlapping with the ranges recited in the instant claims. The Examiner holds that the present claims are directed to “a releasing agent composition,” encompassing the release of any agent from any surface, rejecting Appellants arguments that JP is nonanalogous art. The Examiner also states that the use specified in the claims – removing an aqueous polymer floor polish – is not patentably significant. Further, the Examiner states that in a composition claim, if the prior art structure is capable of performing the intended use, then it meets the claim. The Examiner also states JP names the components of the present invention, and that nonpreferred embodiments of an invention may be indicative of obviousness. Also, the Examiner states a reference is not limited to working examples.

ARGUMENT

Appellant submits claims 1 to 4 are not obvious under 35 U.S.C. § 103(a), and are patentable over JP 63-069897A (hereinafter "JP"). 35 U.S.C. § 103(a) states that a patent may not be obtained “if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art....” Appellant argues that the Examiner has not established a prima facie case of obviousness against the present invention: The Examiner relies on nonanalogous art in rejecting the present claims in view of JP. Also, rather than suggesting the present invention, JP teaches away from the present invention by describing a large number of ingredients rather than the specific combinations and amounts of the present invention, and by disclosing the use of ethylene glycol monobutylether where the present invention explicitly excludes the use of that substance. The present invention provides surprising and unexpected results in view of JP. In view of these arguments, Appellant submits the present invention is not obvious under 35 U.S.C. § 103 in view of JP, and requests reversal of the rejection of the claims under appeal.

1. The Examiner has not established a prima facie case of obviousness against the present invention because the Examiner relies on nonanalogous art in rejecting the present claims.

To rely on a reference under 35 U.S.C. §103, the reference must be analogous prior art. In re Oetiker, 977 F.2d 1443, 1446, 24 USPQ 2d 1443, 1445 (Fed. Cir. 1992). The Federal Circuit has stated that analogous art is (1) “in the field of the applicant’s endeavor” or, if not, then (2) “reasonably pertinent to the particular problem with which the invention was concerned.” Oetiker, 977 F.2d at 1446, 24 USPQ 2d at 1445 (Fed. Cir. 1992).

The Examiner has taken the position that the present claims relate broadly to any releasing agent composition which encompasses the release of any agent from any surface. Appellant hastens to note that the claimed invention relates to a composition for removing an aqueous polymer floor polish. Thus, it is believed that the field of the invention relates to aqueous polymer floor polish removal. One skilled in the art would not look to the field of machinery maintenance, such as removing water-insoluble polymers deposited to impart rust resistance to steel plates, or the field of printed circuit board manufacture to address floor polish removal. The Federal Circuit has generally agreed with this position:

The combination of elements from nonanalogous sources, in a manner that reconstructs the applicant’s invention only with the benefit of hindsight, is insufficient to present a prima facie case of obviousness. There must be some reason, suggestion, or motivation found in the prior art whereby a person of ordinary skill in the field of the invention would make the combination. That knowledge cannot come from the applicant’s invention itself. Diversitech Corp. v. Century Steps, Inc., 850 F.2d 675, 678-79, 7 USPQ 2d 1315, 1318 (Fed. Cir. 1988); In re Geiger, 815 F.2d 686, 687, 2 USPQ 2d 1276, 1278 (Fed. Cir. 1987); Interconnect Planning Corp. v. Feil, 774 F.2d 1132, 1147, 227 USPQ 543, 551 (Fed. Cir. 1985).

From In re Oetiker, 977 F.2d 1443, 1447; 24 U.S.P.Q.2d 1443 (Fed. Cir. 1992).

Applying this rule to the facts in Oetiker, the Federal Circuit stated that “[t]he Board apparently reasoned that all hooking problems are analogous” (Id. at 1446); however, “[i]t has not been shown that a person of ordinary skill, seeking to solve a problem of

fastening a hose clamp, would reasonably be expected or motivated to look to fasteners for garments” (Id. at 1447). Similarly, Appellant submits that one of ordinary skill, seeking to prepare a composition for removing aqueous polymer floor polish, would not look to compositions used for machinery maintenance nor to compositions for printed circuit board manufacture. Also, one of ordinary skill would not look to compositions for removing water-insoluble polymer substances (JP page 2 section 3), when seeking to remove aqueous (or water-soluble) polymer floor polish.

The Federal Circuit also found that a process for filling the dead volume of a tank used to store refined liquid hydrocarbon product was not analogous to a reference teaching the use of gels to fill anomalies in natural underground formations to divert oil toward a production well, improving flow profiles through natural formations. In re Clay, 966 F.2d 656, 659-60, 23 USPQ2d 1058, 1061 (Fed. Cir. 1992). The court held the reference was not reasonably pertinent to the inventor’s problem of preventing loss of stored product to tank dead volume. Id. Similarly, the present invention relates to the problem of safer, more effective compositions for removing aqueous polymer-type floor polish from flooring surfaces by scrubbing the polish off the surface. JP is not reasonably pertinent to the present problem, teaching instead the removal of water-insoluble polymer substances from machinery. In Tests #1 and #3, samples were totally immersed in stripping compositions; steel plates were cleaned via “still immersion.” Clearly this is not practical for floors and evidences a different environment for the JP invention. One addressing the problem of stripping floors would not look to art discussing total immersion methods. Furthermore, JP Tests #2 and #4 are identified as spray-cleaning and ultrasonic cleaning tests. None of these cleaning methods would be practical for cleaning floors as described in the present invention.

The Examiner states that different intended uses for otherwise similar products is not a patentable distinction and the intended use must result in a structural difference. The Examiner further cites case law for the proposition that if the prior art structure is capable of performing the intended use, then it meets the claim. These arguments appear to be based on comparison to anticipatory prior art and ignores the fact that the present invention is not anticipated by the JP reference. The Examiner has recognized that the art is not anticipatory as the rejection is based on § 103 rather than § 102. The machinery

maintenance and printed circuit board manufacture compositions taught by the JP reference are not "otherwise similar products" to the floor polish removal compositions claimed in the present invention. Whether the processing compositions disclosed in the JP reference could perform the intended use is not relevant in the instant case because the compositions are not the same and the statement of use is not needed to distinguish the compositions. In the present case, the claimed composition is different from any specific composition taught by the JP reference and the determination of patentability must be based solely on considerations of what would have been obvious at the time the invention was made.

The dependent claims of the present invention, as seen in Appendix A, are separately patentable and do not stand or fall together. These claims recite further specific elements that have no reasonable correspondence with the JP reference. Neither the selection of mono-n-butyl forms of the formula in component (A) (claim 2), the selection of alkanolamine in component (C) (claim 3), nor the dilution in claim 4 analogizes the present invention to the JP reference.

2. The present invention is not obvious over JP because JP describes a large number of ingredients rather than the specific combinations and amounts of the present invention, and because JP teaches away from the present invention, by disclosing the use of ethylene glycol monobutylether where the present invention explicitly excludes the use of that substance, also providing unexpected results in view of JP.

Since there is no anticipation, as discussed in the previous section, that brings the focus back to whether the claimed invention would have been obvious in view of the JP reference. The Examiner has stated that all the claimed components are disclosed by the JP reference in the claimed amounts (paper #23, page 4, 1st paragraph). Appellant disagrees. The disclosure of a large number of components and disclosure of a broad range of possible amounts does not show the claimed combination in the claimed amounts. The Examiner can point to no specific disclosure that supports that statement. The Examiner adds that the reference is not limited to the working examples. Appellant agrees with the general statement of the law. However, as noted above, the disclosure of the JP reference outside of the working examples is nothing more than a catalog of components and ranges that can be used in various combinations for machinery

maintenance or for printed circuit board manufacture. This is not anticipation of the presently claimed invention under the law. Recognizing this situation the Examiner reverts to stating that "non-preferred embodiments can be indicative of obviousness". Again, Appellant agrees with the general statement of the law, but disagrees that it leads to a conclusion of anticipation or obviousness with respect to proper application of the JP reference to the instantly claimed invention. The teachings beyond the working examples merely identify the ingredients used in the present invention along with others not used in the present invention. The amounts broadly disclosed overlap those of the present invention in some cases, but that is not, under the applicable law, a teaching or suggestion of the present invention for the reasons noted above; unrelated field of art and lack of specificity.

Even if the reference was deemed to be in a relevant field of the art, it teaches nothing with respect to the claimed invention. The teachings of the JP patent describe many ingredients, some of which are the claimed ingredients, and describes that they may be used in various combinations within broad, equivalent ranges for the purpose of machinery maintenance or for printed circuit board manufacture. That simply is not foresight of the claimed invention which is based on a specific combination and amount of certain of the ingredients for a specific purpose different from the JP reference. The Examiner attempts to justify the application of this hindsight analysis by suggesting the proper test of what would have been obvious necessarily involves a reconstruction based upon hindsight reasoning. Again, Appellant disagrees. Proper analysis of what would have been obvious after the fact is not the same as improper hindsight reasoning. Hindsight reasoning presupposes knowledge of the end result and asks whether one could achieve the result by proper selection of ingredients from the catalog of ingredients listed in the JP reference. This is not the test of obviousness. The test is what would have been obvious at the time the invention was made to a skilled worker in the art having the reference before him, but without knowledge of Appellant's disclosure. Appellant submits the Examiner cannot point to anything in the reference suggesting the use of its machinery maintenance or printed circuit board manufacture compositions as aqueous polymer floor polish removers. Appellant submits the Examiner cannot point to anything in the reference suggesting the proper selection of the ingredients used in the machinery

maintenance or printed circuit board manufacture compositions to make them eminently suitable as floor polish removers. This absence of teaching leads to the legal conclusion that the claimed invention is not obvious.

The present invention is also nonobvious in view of JP because JP does not suggest or motivate the present compositions, or teach or suggest all the claim limitations of the present invention. Rather than teaching the present invention, JP teaches away by disclosing the interchangeable use of ethylene glycol monobutylether and/or diethylene glycol monobutylether in its cleaners, while the present invention explicitly discards the first and claims only di- or tri-ethylene glycol compounds for use in its cleaners. See page 2 of JP, section (b), where ethylene glycol monobutylether and diethylene glycol monobutylether were disclosed as equally preferred solvents for the JP compositions. These solvents are again discussed on JP page 5 paragraph 3, as “group (b)”, without distinguishing between the solvents.

Compare also the JP disclosure to the present claim 1, which restricts the formula of component A so that “n” is an integer of 2 or 3, and the present claim 2, which restricts component (A) to diethylene glycol mono-n-butyl ether or triethylene glycol mono-n-butyl ether. Page 3 line 16 to page 4 line 10 of the present specification describes ethylene glycol solvents in cleaning compositions as part of the state of the art in floor cleaning compositions, and as part of the problem with the state of the art. Appellant evaluated the releasing effects of compositions comprising di- or tri-ethylene glycol mono-n-butyl ether on removing polish from flooring surfaces by preparing Examples 1 to 5, and the effects of compositions having ethylene glycol mono-n-butyl ether by preparing Comparative Examples 1 and 2, as disclosed in Table 1 of the present application. Examples 1 to 5 and Comparative Examples 1 and 2 were applied to flooring surfaces polished with the aqueous polymer polish composition of Table 2. Table 3 shows that Examples 1 to 5 were superior to the Comparative Examples, both for releasing polish and for not being malodorous. Examples 1 to 5 showed release ratios from 93 to 100% and negative indications of malodors. The Comparative Examples, on the other hand, had release ratios of 81% and 15% and were positive for malodors. These surprising results show the di- and tri-ethylene glycol mono-n-butyl ethers of the present invention are clearly superior releasants of aqueous polymer floor polish, compared to the

ethylene glycol mono-n-butyl compositions. Given that JP discloses the interchangeable use of ethylene and di-ethylene glycol compounds, Appellant submits the data in Table 3 clearly renders the present invention nonobvious over the prior art.

Other differences may also be discussed between the present compositions and JP, showing that JP teaches away from the present invention and that the present invention is surprising in view of JP. For instance, JP teaches the use of its compositions in removing water-insoluble polymer substances (page 2 section 3), whereas the present claims are directed to removing aqueous (or water-soluble) polymer floor polish. Also, JP teaches the use of benzyl alcohol as interchangeable with the glycol compounds of group (b) on page 2 section (b), whereas the present claims 1 and 2 require benzyl alcohol in combination with substituent (A) compounds. Appellant considers these differences to be very compelling in showing that JP teaches away from the present compositions.

The dependent claims of the present invention, as seen in Appendix A, are separately patentable and do not stand or fall together. These claims recite further specific elements that have no reasonable correspondence with the JP reference. Claim 2 specifies a mono-n-butyl form of the di- or tri-ethylene glycol compounds of component (A), in contrast to JP teachings; Claim 3 claims the combination of component (A) with alkanolamine, contrary to the teachings of the JP reference; and claim 4 teaches the dilution of compositions without ethylene glycol monobutylether, contrary to the teachings of JP.

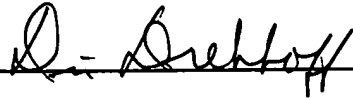
CONCLUSION

In view of the above discussion, Appellant respectfully urges that claims 1 to 4 of the present invention are nonobvious under 35 U.S.C. § 103 in view of the JP reference. Reversal of the rejection is respectfully requested.

Respectfully submitted,

4-22-02

Date



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APPENDIX A

Each of the following claims 1 to 4 stands under final rejection.

1. A releasing agent composition for use in removing an aqueous polymer floor polish, which comprises as essential components
 - (A) 5 to 75% by weight of a water-soluble organic solvent represented by the formula $C_4H_9-O-(CH_2CH_2O)_nH$ where n is an integer of 2 or 3,
 - (B) 15 to 40% by weight of benzyl alcohol, and
 - (C) 10 to 20% by weight of an amine compound.
2. The releasing agent composition according to Claim 1, wherein component (A) is one member selected from the group consisting of diethylene glycol mono-n-butyl ether and triethylene glycol mono-n-butyl ether.
3. The releasing agent composition according to Claim 1, wherein component (C) is an alkanolamine.
4. A releasing agent composition according to Claim 1, wherein 100 parts of the composition are diluted in 300 to 2000 parts by weight of water.